

BYRSOCRYPTA HALIDAY, 1838 (INSECTA, HEMIPTERA) : PROPOSED SUPPRESSION UNDER THE PLENARY POWERS IN FAVOUR OF PEMPHIGUS HARTIG, 1839. Z.N.(S.) 431

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At the end of a paper on new British insects published in the *Annals of Natural History* 2(9), Nov. 1838 : 189-190, A. H. Haliday wrote : " If *Eriosoma fagi* be assumed as the type of this genus [i.e., *Eriosoma* Leach, 1818], it will be necessary to separate those species which inhabit closed follicles [i.e., galls] on the leaves and shoots of plants. In that case I would propose the generic name *Byrsocrypta* for the last." It will be noted that there is no description of the genus and that no type-species is indicated. Nevertheless *Byrsocrypta* is not a nomen nudum as it fulfils the requirements of Articles 12 and 16. In addition Haliday on page 189 in effect cited two gall-forming species of *Eriosoma* which must be included in his generic indication. These were *Eriosoma pallida*, a new species described by Haliday as inhabiting the leaves of the mountain elm (now placed in the genus *Kaltenbachella* Schouteden, 1906) (= *Gobaishia* Matsumura, 1917) and *Eriosoma ulmi-gallarum* cited without author but presumably the *Aphis gallarum-ulmi* of De Geer, 1773. The oldest name for the latter species is *Tetraneura ulmi* (Linnaeus, 1758) described originally by Linnaeus on page 451 of his *Syst. Nat.* (ed. 10) in his genus *Aphis*. The name is not a primary homonym of *Eriosoma ulmi* (Linnaeus, 1758) which was originally described on page 453 of the same work in the genus *Chermes* Linnaeus.

2. If *Byrsocrypta* Haliday were to be regarded as a genus including all the gall-forming species of *Eriosoma* Leach and the two species described on the previous page were to be disregarded, then the first species to be included in the genus would become automatically the type-species. The first species actually to be included in it was *Aphis bursaria* Linnaeus, 1758, by Westwood in 1840 (*Introd. mod. Classif. Ins.*, Synopsis : 118) who cited it as the type-species of *Byrsocrypta* Haliday which he erroneously spelt as *Brysocrypta*.

3. In 1839, Hartig (*Jabresber. Forstwiss. u. forstl.-naturk. im Jahre 1836 u. 1837* 1(4) : 645) established the genus *Pemphigus* for three species, *bursarius*, *fraxini*, and *quercus*, which last was queried. The first type-species designation for this genus was by Fitch, 1855 (*Trans. New York State Agric. Soc.* 14 : 7 (footnote)) who wrote : " whilst his [Hartig's] genus *Pemphigus*, with *bursarius* as its type is entitled to stand ".

4. In 1951, Laing (*Ent. mon. Mag.* 86 : 108-109) published a review of the facts concerning the standing of the genus *Pemphigus* Hartig and concluded that Westwood's 1840 citation of *Aphis bursaria* Linnaeus as the type-species of *Byrsocrypta* Haliday was a valid one. In consequence he sank *Pemphigus* Hartig as an objective synonym of *Byrsocrypta* Haliday with *Aphis bursaria* Linnaeus as the common type and reluctantly validated *Tetraneura* Hartig with type *Aphis ulmi* Linnaeus. Laing gave valuable evidence as to the date of Haliday's and Hartig's works.

5. If Haliday's description of *Byrsocrypta* were to be regarded as including *Eriosoma pallida* Haliday and *Eriosoma ulmi-gallarum* Haliday, Westwood's type designation of *Aphis bursaria* Linnaeus would be invalid as it was not one of the originally included species. If the type must be selected from *Eriosoma pallida* Haliday and *E. ulmi-gallarum* Haliday the question at once arises as to whether the latter name refers to a new species or whether as seems more probable it refers to an old species. If it is an old species which species is it? It seems likely that Haliday was referring to *Aphis gallarum-ulmi* De Geer, 1773. De Geer referred his species to *Aphis ulmi* Geoffroy, who in turn referred to *Aphis* Linnaeus (*Fauna suec.*, No. 705). Thus the *Aphis ulmi* of Geoffroy is the same as the *Aphis ulmi* of Linnaeus. It is not always clear to which *ulmi* Linnaeus the older authors referred but the gall-forming species is *Aphis ulmi* Linnaeus.

6. In 1855, Fitch (*Trans. New York State Agric. Soc.* 14 : 7 (footnote)) wrote of Haliday's *Byrsocrypta*: "We hence regard the *ulmi* [of Geoffroy] and not the *bursarius* as the type of Mr. Haliday's genus." This was in effect the first valid type-designation for *Byrsocrypta*, for although *Aphis ulmi* Geoffroy was not specifically included in Haliday's genus, Fitch recognised that *Eriosoma ulmi-gallarum* was the same as *Aphis ulmi* Geoffroy.

7. In 1841, Hartig (*Z. Ent.* (Germar) 3 : 366) established the genus *Tetraneura* for "*Aphis ulmi* Linnaeus?" (which he described) and at the same time listed *Tetraneura rugicornis* Hartig. Strictly according to the Code, the type-species of *Tetraneura* cannot be the queried *Aphis ulmi* Linnaeus nor can it be *T. rugicornis* Hartig, for this is a nomen nudum and has never been recognised. *Tetraneura* therefore has the status of a genus published without included species. The first person to place a species in the genus was Kaltenbach (1843, *Mon. Fam. Pflanzenl.*: 189) who included *Tetraneura ulmi* (De Geer) (= *Aphis ulmi* Linnaeus), which thus becomes the type by subsequent monotypy.

8. In 1920, Baker (*U.S. Dept. Agric. Bull.* 826 : 68) pointed out that although Hartig in 1841 had queried *Aphis ulmi* Linnaeus, his good description indicated that the species he actually had before him was *Aphis ulmi* Geoffroy (1762) 1785 (in Fourcroy), not *Aphis ulmi* Linnaeus and consequently gave it the replacement name *Tetraneura ulmifoliae* Baker. It has since been shown by Börner, 1952 (*Mitt. Thüringen Bot. Gesellsch.* 4(3) : 188) that Baker had confused *Aphis ulmi* Linnaeus, 1758, with *Chermes ulmi* Linnaeus, 1758, and consequently that the type-species of *Tetraneura* Hartig is indeed *Aphis ulmi* Linnaeus (= *Aphis ulmi* Geoffroy—see (5) above). *Tetraneura ulmifoliae* Baker therefore falls as a synonym of *Tetraneura ulmi* (Linnaeus). It is clear, from all this, that *Tetraneura* Hartig becomes an objective synonym of *Byrsocrypta* Haliday with the same type-species, *Aphis ulmi* Linnaeus.

9. It is obvious that there are two alternatives dependant on the interpretation of Haliday's peculiar establishment of *Byrsocrypta* in 1838:

(a) If *Byrsocrypta* is regarded as a genus without named species then the type must be the first species placed in it. This as we have seen (para. 2 above) was *Aphis bursaria* Linnaeus introduced by Westwood in 1840. If this is accepted then Laing is right in stating that *Pemphigus* Hartig gives way

to *Byrsocrypta* Haliday and *Tetraneura* Hartig stands.

(b) If *Byrsocrypta* Haliday is regarded as a genus which included *Eriosoma pallida* Haliday and *Eriosoma ulmi-gallarum* Haliday, then the first valid type-species designation is by Fitch, 1855, and is *Aphis ulmi* Linnaeus. *Tetraneura* Hartig then becomes an objective synonym of *Byrsocrypta* Haliday while *Pemphigus* Hartig stands. Tullgren 1909 (*Ark. Zool.* 5(14) : 182) designated *Eriosoma pallida* Haliday as type-species of *Byrsocrypta*, but this type-designation was antedated by that of Fitch.

It is not suggested that the Commissioners vote on this alternative. The name *Byrsocrypta* Haliday has been very little used and both *Tetraneura* and *Pemphigus* are well-known names in current use, the latter name having given rise to the family-group name PEMPHIGINI.

10. To avoid the confusion described above it is requested that the genus *Byrsocrypta*, so peculiarly established by Haliday, be suppressed under the plenary powers and with its erroneous spelling *Brysocrypta* Westwood placed on the Official Index. The International Commission is therefore requested to take the following action :

(1) to use its plenary powers to suppress the generic name *Byrsocrypta* Haliday, 1838, for the purposes of the Law of Priority but not for those of the Law of Homonymy ;

(2) to place the following generic names on the Official List of Generic Names in Zoology :

(a) *Pemphigus* Hartig, 1839 (gender : masculine), type-species, by designation by Fitch, 1855, *Aphis bursaria* Linnaeus, 1758 ;

(b) *Tetraneura* Hartig, 1841 (gender : feminine), type-species, by subsequent monotypy, *Aphis ulmi* Linnaeus, 1758 ;

(3) to place the following specific names on the Official List of Specific Names in Zoology :

(a) *bursaria* Linnaeus, 1758, as published in the binomen *Aphis bursaria* (type-species of *Pemphigus* Hartig, 1839) ;

(b) *ulmi* Linnaeus, 1758, as published in the binomen *Aphis ulmi* (type-species of *Tetraneura* Hartig, 1841) ;

(4) to place the following generic names on the Official Index of Rejected and Invalid Generic Names in Zoology :

(a) *Byrsocrypta* Haliday, 1838 (as suppressed under the plenary powers in (1) above) ;

(b) *Brysocrypta* Westwood, 1840 (an incorrect spelling for *Byrsocrypta* Haliday, 1838) ;

(5) to place the family-group name PEMPHIGINI (emendation of PEMPHIGIDEN) Koch, 1857 (*Die Pflanzenlause Aphiden* : viii) (type-genus *Pemphigus* Hartig, 1839) on the Official List of Family-Group Names in Zoology.